

L. RUNNER.
NON-REFILLABLE BOTTLE.
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932,498.

Patented Aug. 31, 1909.

Fig 1.

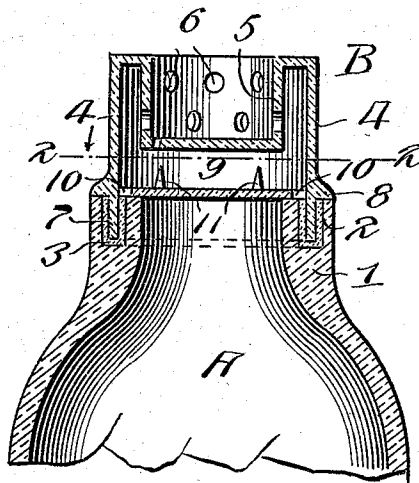
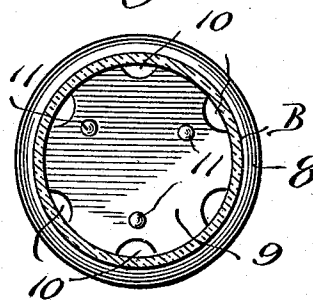


Fig 2.



Witnesses

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NON-REFILLABLE BOTTLE.

932,498.

Specification of Letters Patent.

Patented Aug. 31, 1909.

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To all whom it may concern:

Be it known that I, LYDIA RUNNER, a citizen of the United States, residing at Montrose, in the county of Lee and State of Iowa, have invented new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to bottles and more particularly to bottles of the non-refillable type so designed as to permit the contents of the bottle to be readily discharged and at the same time prevent re-filling of the bottle by any person attempting to palm off on the public an inferior article under the label or trade-mark of the concern putting out to the trade the original article.

The invention has for one of its objects to improve and simplify the construction and operation of devices of this character so as to be comparatively simple and inexpensive to manufacture, reliable and efficient in use, and readily applied to the bottle after the same is filled.

Another object of the invention is the provision of a bottle stopper in the form of a cap which incloses a valve for preventing re-filling, the cap being cemented in a groove formed in the neck of the bottle.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one embodiment of the invention, Figure 1 is a central vertical section of the upper portion of a bottle with the improved stopper thereon. Fig. 2 is a transverse section on line 2—2, Fig. 1.

Similar reference characters are employed to designate corresponding parts throughout the views.

Referring to the drawing, A designates a bottle of any approved construction, the walls of which are thickened at 1 where the neck is formed and in the top surface of this thickened portion or neck is an annular groove 2 which is adapted to receive cement 3 for anchoring the stopper B on the bottle. This stopper is constructed of any desired material and is preferably in the form of a cap comprising a cylindrical body 4 having at its top a cylindrical reentrant portion 5 which is formed with a plurality of perfora-

tions 6 through which the liquid is poured out. The bottle cap has an annular cylindrical flange 7 which enters the groove 2 and held in place by the cement 3, there being a bead 8 that constitutes a shoulder bearing against the top of the bottle neck, whereby a tight joint is provided and the cap firmly held in place. Arranged in the cap-shaped stopper B is a disk flange 9 which normally rests on that portion of the top of the bottle disposed within the stopper B that forms an annular ledge on which the peripheral portion of the valve rests. The periphery of the valve is provided with notches 10 through which the liquid passes when the valve is unseated upon the inversion of the bottle. On the top of the valve are projections 11 which are adapted to engage the bottom of the reentrant portion 5 of the stopper to form stops for limiting the movement of the valve when the bottle is inverted to pour out the contents. The reentrant portion 5 is adapted to receive an ordinary cork stopper so as to close the aperture 6 to prevent the liquid from running out or evaporating.

In practice, the bottle is filled with liquid and after cement is poured into the groove 2, the valve 9 is placed in position in the stopper B. The stopper is next applied to the bottle by inserting the flange 7 into the cement in the groove 2. After the cement sets, the bottle will be firmly held in place and the cork stopper which is placed in the inner portion 5 of the part B, will hold the liquid in the bottle.

The cap B comprises spaced concentric walls 4 and 5, the space 13 between said walls being closed at its outer end by a ring 12 which engages the outer ends of the walls 4 and 5. A bottom 14 closes the space inclosed by the inner wall 5 and is imperforate and acts as a guard to prevent tampering with the valve 19. The bottom 14 also serves as a stop in conjunction with the projections 11 to limit the movement of the valve when tilting the bottle or like receptacle A to pour off the liquid contents thereof. It is noted that the bead 8 extends outward and covers the joint between the flange 7 and the upper outer portion of the neck of the bottle.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily ap-

parent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention, what I claim is:—

1. In combination with a bottle or like necked receptacle having the upper portion of the neck thickened and formed with an annular groove providing annular spaced flanges, a cap comprising concentric walls of different lengths, a wing uniting the upper ends of said walls, and a bottom closing the lower end of the inner wall, said bottom being imperforate and the inner wall having openings forming outlets, the outer wall being the longer and having its lower portion secured in the groove formed between the spaced flanges at the upper end of the bottle neck and said outer wall having an outwardly extending bead to project over the joint and the outer flange of the bottle neck, and a valve seated upon the inner flange of

the bottle neck and provided in its outer edge portion with openings.

2. In combination, a bottle or like receptacle having a neck thickened at its upper end and formed with an annular groove providing spaced annular flanges, an integral cap comprising spaced concentric walls of different lengths, a wing joining the upper ends of the walls and a bottom closing the lower end of the inner wall, said bottom being imperforate and the inner wall having openings to provide outlets, the lower end portion of the outer wall being cemented in the annular groove provided at the upper end of the bottle neck and having an outer bead overlapping the joint formed between the outer wall of the cap and the bottle neck and resting upon the outer flange of said neck, and a valve seated upon the inner flange of the bottle neck and provided upon its upper side with a series of projections to engage the bottom of the inner wall of the cap and having openings in its edge.

In testimony whereof I affix my signature in presence of two witnesses.

LYDIA RUNNER.

Witnesses:

H. R. JACOBS,
ZAIDA THON.